

Notice of Allowability

Application No.

10/026,003

Applicant(s)

KRISHNAN ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 11/24/03.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Callie E. Shosho
Primary Examiner
Art Unit: 1714.

Statement of Reasons for Allowance

1. The present claims are allowable over the "closest" prior art Mihoya et al. (U.S. 5,719,206) for the following reasons:

Mihoya et al. disclose aqueous printing ink comprising modified pigment whose surface is modified with silane coupling agent such as alkoxysilane and an aqueous resin wherein the aqueous resin is grafted to the modified pigment by reaction of the functional group, i.e. carboxyl, amino, hydrazine, or epoxy group, on the aqueous resin with the functional group, i.e. vinyl, (meth)acryloyl, epoxy, or amino group, of the silane coupling agent.

However, this is in direct contrast to the present claims which require gravure printing ink comprising pigment and silicone modified macromolecular resin binder that comprises reaction product of alkoxysilane and aqueous emulsion of polymer containing hydroxy functional groups. That is, the present claims require pigment and silicone modified macromolecular resin binder produced by reacting alkoxysilane with polymer having hydroxy functional groups while Mihoya et al. disclose pigment reacted with alkoxysilane to produce modified pigment which then reacts with functional groups of aqueous resin. Thus, in Mihoya et al., the resin does not react with alkoxysilane as required in the present claims. Rather, the pigment reacts with silane coupling agent such as alkoxysilane first followed by grafting of resin to the modified pigment by reaction of functional groups on resin with functional groups present on the silane coupling agent such as vinyl, (meth)acryloyl, epoxy, or amino groups.

As evidence to support the position that Mihoya et al. do not disclose ink as presently claimed, applicants have submitted 1.132 declaration on 11/24/03 that discloses that the aqueous dispersion disclosed in Mihoya et al. is not the same as the aqueous emulsion used to produce the

presently claimed gravure ink. As set forth in the declaration, the presently claimed aqueous emulsion of silicone modified macromolecular resin binder that comprises reaction product of alkoxysilane and aqueous emulsion polymer containing hydroxy functional groups is produced when the alkoxy portion of the alkoxysilane reacts with the hydroxyl functionality of the polymer. There is no disclosure in Mihoya et al. of such reaction. That is, there is no disclosure in Mihoya et al. of aqueous emulsion of silicone modified macromolecular resin prepared by reacting alkoxysilane with aqueous emulsion polymer containing hydroxy functional groups. Rather, Mihoya et al. disclose reacting silane coupling agent or alkoxysilane with pigment followed by grafting aqueous resin to the modified pigment wherein the resin is grafted to the pigment by reacting functional groups of the aqueous resin, i.e. carboxyl, amino, hydrazine, or epoxy group, with functional group, i.e. vinyl, (meth)acryloyl, epoxy, or amino group, of the silane coupling agent. There is no disclosure that the alkoxy portion of the alkoxysilane reacts with the hydroxyl functionality of the polymer to form silicone modified macromolecular resin binder.

Further, as set forth in the declaration, the ink of the present invention exhibits superior gloss and paper holdout while the ink of Mihoya et al. would not be able to achieve such gloss and paper holdout due to the deleterious effects caused by reaction of the silane coupling agent with pigment.

Thus, it is clear that Mihoya et al. do not disclose or suggest the present invention.

In light of the above, it is clear that the rejections of record are untenable, and so, the present claims are passed to issue.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714